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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,960	01/27/2006	Tingfu Zhang	7002/4	9226

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EXAMINER	
LEYSON, JOSEPH S	

ART UNIT	PAPER NUMBER
1722	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/566,960	ZHANG ET AL.	
	Examiner	Art Unit	
	Joseph Leyson	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites "said V-shape water passage slots" which lacks antecedent basis making it unclear to what it refers. The examiner suggests changing it to --said U-shape water passage slots--.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bessemer et al. (U.S. Patent 6,620,354) in view of Racioppi et al. (U.S. Patent 5,780,071), Gatto (U.S. Patent 3,538,210) and Dorninger (U.S. Patent 5,505,058).

Bessemer et al. (U.S. Patent 6,620,354) disclose a cooling and molding water (i.e., col. 4, lines 37-44) tank for extrusion of a plastic complicated profile (i.e., col. 6, lines 32-34) including a tank body (i.e., fig. 9) including a front end block, a rear end block, a top cover, two side plates and a bottom plate, and a plurality of molding blocks 523, 526, 529, 532, 535 (five in number) and water collection plates (four in number, with internal cavities 543, 546, 549, 552) which are provided along the length direction inside the tank body, the openings of the molding blocks and the internal cavities are aligned (i.e., col. 11, lines 6-10; i.e., the shapes thereof are the same), the molding blocks and water collection plates being spaced from each other at an interval (i.e., fig. 9). However, Bessemer et al. (U.S. Patent 6,620,354) doesn't disclose foot plates, an inlet pipe, an outlet pipe, a vacuum valve, a vacuum gauge or the increasing interval spacing, as recited by the instant claims.

Racioppi et al. (U.S. Patent 5,780,071) discloses molding blocks 10, 12, 14, 16 bolted to a plurality of foot plates 18, 26, 28 which enable changeover of the molding blocks (i.e., col. 3, lines 4-39).

Gatto (U.S. Patent 3,538,210) discloses a cooling and molding water tank 40 which includes a water inlet 90 near a front end block 43 and a water outlet 82 near the

rear end block 44, which enable concurrent water flow to the extruded profile 32, and which includes molding blocks 61-66 which are spaced in intervals that become wider from the front end to the rear end to increase the degree of setting of the extruded profile 32 (i.e., col. 6, lines 48-75).

Dorninger (U.S. Patent 5,505,058) discloses a cooling and molding water tank 2 having means for providing water and vacuum to the tank which includes an inlet pipe 12 provided on a side plate 4 of the water tank near a rear end block 5, an outlet pipe 13 provided near the front end block 1, and a vacuum valve 15, 16 and a vacuum gauge 17 provided on a top cover of the water tank. The inlet pipe 12 is provided near the rear end block and the outlet pipe 13 is provided near the front end block, so that water flow is counter-current to the extruded profile (i.e., col. 2, line 63, to col. 3, line 2).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the tank of Bessemer et al. (U.S. Patent 6,620,354) with footing plates because such a modification would enable changeover as disclosed by Racioppi et al. (U.S. Patent 5,780,071), to modify the interval spacing of Bessemer et al. (U.S. Patent 6,620,354) to become wider from the front end to the rear end because such a medication would increase the degree of setting of the extruded profile within the tank as disclosed by Gatto (U.S. Patent 3,538,210), to modify the tank of Bessemer et al. (U.S. Patent 6,620,354) with the means for providing water and vacuum of Dorninger (U.S. Patent 5,505,058) because such a modification is well known and conventional in the art and would provide means for water and vacuum to the tank of Bessemer et al. (U.S. Patent 6,620,354), and to further modify the inlet pipe to be near the front end

block and the outlet pipe to be near the rear end block because such a modification would enable concurrent flow relative to the extruded profile as disclosed by Gatto (U.S. Patent 3,538,210) which is an art recognized alternative to counter-current flow as disclosed by Dorninger (U.S. Patent 5,505,058). As to instant claims 2, 5 and 6, Dorninger (U.S. Patent 5,505,058) discloses molding blocks 8, 8a, 8b which are securely inserted into a receptacle of the tank 2 at the internal side of the side plates 4 of the water tank, which have a limited freedom of motion in the longitudinal, transverse and vertical directions (i.e., figs. 1-3). The molding blocks 8, 8a, 8b have water passage slots 9 which increase flow turbulence to increase profile cooling (i.e., col. 2, lines 36-47). Note that it would be further obvious to change the shape of the slot as long as turbulent flow is still achieved because changing the shape would have been a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed shape is significant, In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966); and that it would be further obvious to an artisan of ordinary skill to make plural slots in a molding block because it is entirely obvious to duplicate parts for a multiplied effect, St. Regis Paper Co. v. Bemis Co., Inc., 193 USPQ 8. Therefore, it would have been further obvious to modify the tank with the molding blocks of Dorninger (U.S. Patent 5,505,058) because such a modification would provide a means for securing the molding blocks such that the mold blocks have a limited freedom of motion in the longitudinal, transverse and vertical directions and because such a modification would increase flow turbulence to increase profile cooling, as disclosed by Dorninger (U.S. Patent 5,505,058). As to the

dimensions of the tank recited by the instant claims, where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device, In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984).

6. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bessemer et al. (U.S. Patent 6,620,354) in view of Racioppi et al. (U.S. Patent 5,780,071), Gatto (U.S. Patent 3,538,210) and Dorninger (U.S. Patent 5,505,058) as applied to claims 1-6 and 9 above, and further in view of Kossl (U.S. Patent Application Publication US 2003/0219503).

Kossl (U.S. Patent Application Publication US 2003/0219503) discloses an adjusting mechanism for changing the shape of a profile cavity passage which is provided on the long side of the profile cavity passage of a molding block 17, the adjusting mechanism including a through kurf 37 which is parallel to and a close distance from the plane of the long side of the profile cavity passage, and at least one through screw hole 53 which is provided on and perpendicular to the plane of the long side, and intersects with the lower side of the kurf 37, wherein an adjusting screw 53 is engaged with the screw hole 53 and the top of the adjusting screw 53 may extend against the upper side of said kurf 37 (i.e., paragraph [0073]).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to further modify the tank with the adjusting mechanism of Kossl

(U.S. Patent Application Publication US 2003/0219503) because such a modification would enable the shape of the profile cavity passage to be changed.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bessemer et al. (U.S. Patent 6,620,354) in view of Racioppi et al. (U.S. Patent 5,780,071), Gatto (U.S. Patent 3,538,210) and Dorninger (U.S. Patent 5,505,058) as applied to claims 1-6 and 9 above, and further in view of Grassi (U.S. Patent 6,394,782).

Grassi (U.S. Patent 6,394,782) discloses that it is typical for elements of a tank to be made from aluminum (i.e., col. 11, lines 13-17).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to further modify the tank to be made from aluminum because such a modification is well known and conventional in the art as disclosed by Grassi (U.S. Patent 6,394,782) and would provide the tank with a material known to be operable in the art for cooling and molding a profile.

8. Applicant's arguments with respect to claim 6 have been considered but are moot in view of the new ground(s) of rejection (i.e., the 112 rejection above).

9. Applicant's arguments filed March 12, 2007 have been fully considered but they are not persuasive.

Applicants argue that a tank in accordance with Claim 1 provides a novel cooling solution for an extrusion profile. In particular, a number of water collection plates alternate with the molding blocks so that the cooling water flows in a periphery- inner circle - periphery pattern to cool the profile homogeneously and sufficiently (see at least

the last paragraph of the description). The examiner respectfully disagrees. As understood from the last paragraph of the description of the instant specification, the novel cooling solution (i.e., the cooling water flowing in a periphery- inner circle – periphery pattern) requires [1] U-shaped water passage slots disposed around the molding plates AND [2] gaps with a width of 0.5-8 mm between the profile and internal cavities of the water collection plates. However, instant claim 1 does not recite these requirements as limitations of the claim, and thus claim 1 is NOT limited to such novel cooling solution. Note that NONE of the instant claims recite BOTH requirements.

Applicants argue that none of the cited references teaches or suggests the water collection plates as recited. In particular, contrary to the assertion of the Examiner, the openings 543,546, 549, 552 in Bessemer (US Patent No. 6,620,354) are not "water collection plates", but rather are openings for the calibrators 523-535 to pass therethrough (see col. 11, lines 6-10 of Bessemer which recite that "openings 540-555 through the walls of each cooling chamber 503-515 can be provided in alignment with the center openings 560-572 in the calibrators 523-535 through which the extrusion can be fed". The examiner respectfully disagrees. As stated in the previous Office action and again above, the water collection plates include internal cavities 543, 546, 549, 552). Note that Bessemer discloses that the cooling liquid can be water (i.e., col. 4, lines 37-44). The openings or internal cavities 543, 546, 549, 552 are NOT openings for the calibrators 523-535 to pass therethrough. The openings or internal cavities 543, 546, 549, 552 and the center openings 560-572 are aligned so that the extrusion or extrudate can pass therethrough.

Applicants argue that nowhere in Bessemer can it be found a teaching that the openings 543-552 allow a cooling liquid to pass therethrough. However, nowhere in Bessemer can it be found a teaching that the openings 543-552 do NOT allow a cooling liquid to pass therethrough. Bessemer discloses that the extrusion can be fed through openings 540-555 and openings 560-572 (i.e., col. 11, lines 1-10; fig. 9). In order for the extrusion to be fed through the openings, such openings must be at least slightly larger than the extrusion. If such openings are at least slightly larger than the extrusion, then some water would pass therethrough.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Leyson whose telephone number is (571) 272-5061. The examiner can normally be reached on M-F 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gupta Yogendra can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JL

ROBERT DAVIS
PRIMARY EXAMINER
GROUP ~~1300~~ 1700

5/23/07